NS - 10746.2

~~SECRET~~

DECLASSIFIED

Engineer

JUN 21 1965

INTELLIGENCE

BULLETIN NO. 2

107 pg

ENGINEER SECTION

HQ. EIGHTH ARMY

APRIL 1945

DECLASSIFIED

~~SECRET~~

No. R.O. Reg. [illegible]

TABLE OF CONTENTS

Title	Page No.
Latest Trends in Japanese Mines and Obstacle Tactics and Technique	1 - 3
Cebu Landing	4 - 7
Japanese Mines on Negros Occidental	8 - 10
Zamboanga Landing	11 - end

NOTICE

This document is classified as SECRET only because portions of the contents describe the effectiveness or ineffectiveness of Japanese tactics, techniques, and material against our troops. The material contained herein may be used for the training of troops.

Published by

Engineer Section, Headquarters Eighth Army

in April 1945

Distributed to all Eighth Army units; GHQ, SWPA: USAFFE: FEAF: Sixth Army; Seventh Fleet; and Land Headquarters, SWPA.

LATEST TRENDS IN JAPANESE MINE AND OBSTACLE TACTICS AND TECHNIQUES

The Negros, Cebu, and Zamboanga operations have supplied a large amount of important information on the latest Japanese trends in the use of mines, obstacles and defensive installations. This special bulletin is being published on the basis of incomplete reports in order to make the information available for use in operational planning and training at the earliest possible date. Publication of further details will be made at a later date.

In the succeeding articles on the various operations, the following trends will be noted:

a. Japanese beach defenses were well planned and would have proved formidable obstacles had they been adequately defended.

b. The enemy continues extensive use of large bombs, charges, and marine mines for blocking roads by cratering and for destroying passing vehicles and personnel. Methods of detonation include contact detonation, electrical control, and control by a pull cord from a foxhole or pillbox.

c. Naval torpedoes are being used as land mines against both vehicles and personnel. At present, the danger of handling the inertia type fuse commonly used requires that the torpedoes be detonated in place. In view of the large charge, this is often difficult to effect without undue destruction.

d. Most important bridges are being heavily mined but many have been captured intact by surprise or because of enemy technical deficiencies in setting up the demolition.

e. Most mines were concealed poorly and could be located visually by trained men. Shells and aerial bombs set for contact detonation often were buried with the fuse extending above the surface. Road mines have been found covered carefully but obviously with sheet metal, wood covers, pottery jars, or palm fronds. In at least two cases, debris has been scattered along one side of the roadway to canalize traffic directly over the mine. Many mines have been found unfused and lying alongside excavations prepared to receive them.

f. The Japanese continue to utilize improvised wooden box mines.

g. Massive anti-tank obstacles in the form of steel and log fences, anti-tank ditches, and coconut log "asparagus beds" were used extensively at Cebu.

h. At Zamboanga and at Cebu City the Japanese had prepared strongly fortified defenses consisting of mines, massive road blocks, pillboxes, and supporting emplacements. Had any real effort been made to defend them, reduction would have been expensive and slow.

In summation, our latest operations indicate that the enemy is using an increasing number of mines, that his mine technique is improving gradually, that his field improvisations are excellent, that bridges are being mined and demolished on an increasingly large scale, and that he is becoming

adept at designing well integrated beach and city defenses combining effective engineer obstacles with protected shelters and weapons emplacements.

CEBU LANDING

(Figure No. 1)

Preliminary reports from Cebu describe the Jap beach defenses as among the most formidable encountered to date in this theater. The enemy failed to defend the beach in force, either having been driven from his positions by naval and aerial bombardment, having been caught off balance by tactical surprise, or having intentionally deserted his beach defenses because of a change in his defensive plan. It is reported that had the beach been defended strongly, the landing might have been very difficult and costly.

A general description of the defensive installation is as follows: (See Figure 1).

Extending the length of the beach (Area 1, 2 and 3, Figure 1), on the open sand strip, an anti-personnel barrier 10 feet in width consisting of pointed bamboo barbs 12 - 18 inches long, partially covered by vines, projected from the sand at a 45° angle toward the sea. In and immediately in rear of these barbs was a field of improvised land mines, principally 77 mm and 155 mm shells and aerial bombs, also extending the length of the beach and consisting of several shallow bands between the beach and the coastal road. It is reported that these mines were placed with the nose fuses flush or slightly above sand level, in some cases being covered with a board. In general they were easily located visually. One report states that the narrow bands comprising the mine field consisted of two rows of mines in checkerboard pattern, the average distance between mines being about 5 feet. Another report states that every 10 - 15 feet an armed shell ranging from 1 - 200 pounds was buried upright with the fuses just protruding above the foamy vine covered surface.

About 50 yards inside the seaward edge of the palm grove fringing the beach and parallel to the beach were several lines of strongly prepared palm tree obstacles designed to block the advance of tracked or wheeled

vehicles. Two types are described. One type consists of several rows of palm logs of about 12 inch diameter embedded vertically or inclined toward the beach and extending above ground level from 3-6 feet. The other type was a single fence made of heavy log posts supporting two horizontal steel railroad rails forming the body of the fence.

To the rear of these obstacles were several reinforced concrete blockhouses. Some of these were camouflaged as nipa huts. The right flank of the beach defenses (Area 3, Figure 1) consisted of a strong group of mutually supporting camouflaged pillboxes, fronted with shallow barbed wire fencing and supported in depth by a trench network. To the immediate front of these pillboxes were small stick-like obstacles protruding from the surf approximately 2 feet. Information on the total number of these block houses and their location is unavailable at present.

All beach exit roads inland past the railroad were either effectively blocked, mined, or prepared for demolition. Roads 6 and 7, Figure 1, were so effectively blocked that they could not be used. Roads 5 and 15, Figure 1, were mined but easily cleared and made passable. Road 4, Figure 1, is reported to have been blocked with three road blocks, consisting of cement pipes and coconut logs with 12 mines (77 and 105 mm artillery shells and 250 pound aerial bombs) in each block. One of these blocks was covered with fire from a light machine gun which was neutralized quickly.

The following notes on specific items are not all-inclusive but only representative. Some details may be inaccurate.

a. On the beach, assault waves suffered casualties and delay from mines that were subject to location by careful visual observation.

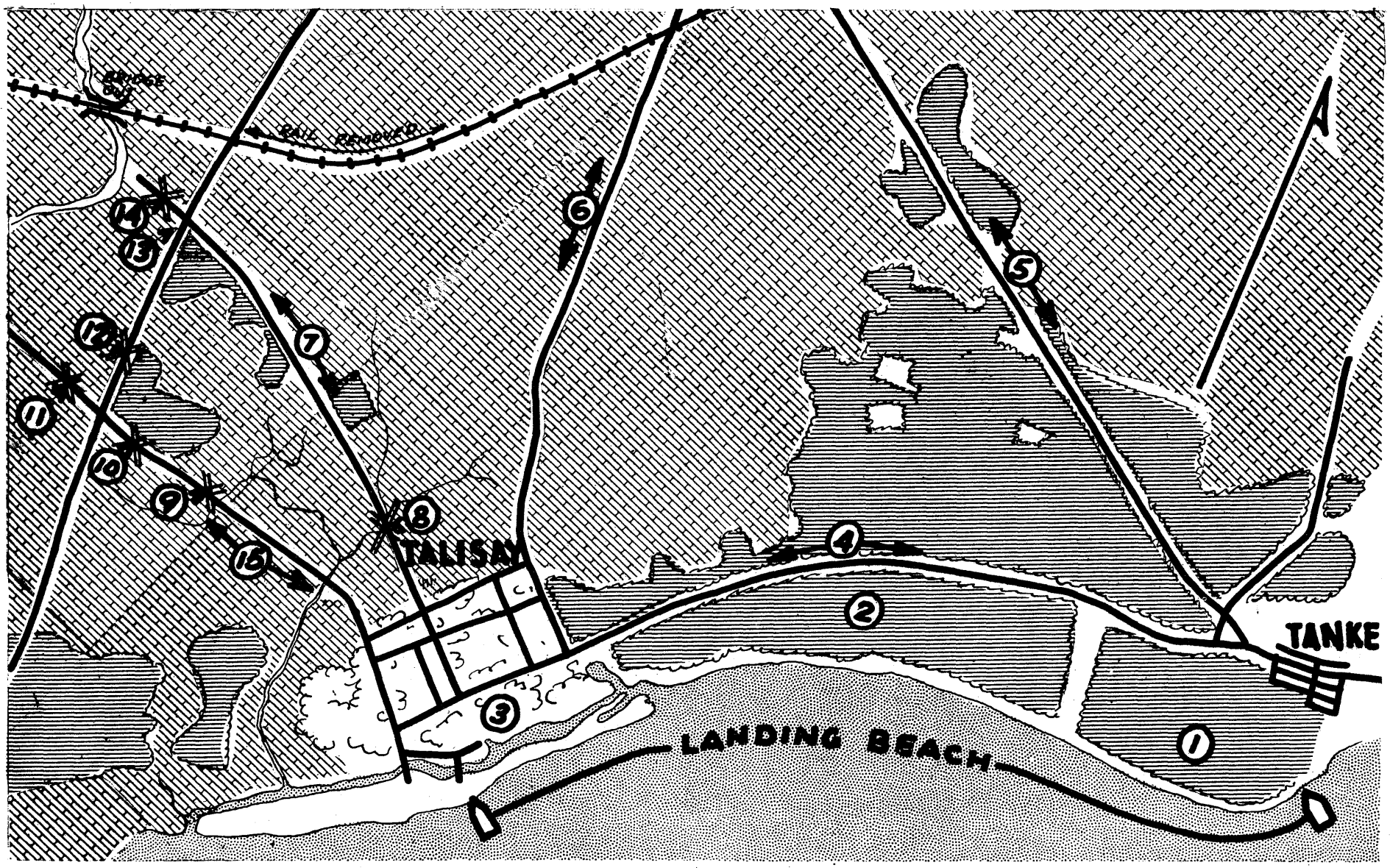
b. The almost continuous band of wet rice fields behind the beach made defiles of all exit roads and were well integrated into the Jap obstacle plan.

c. At point 8, Figure 1, a deep crater at a small bridge formed an effective road block. It was flanked on one side by an impassable swamp area and on the other by a series of craters extending well into the impassable wet rice fields. 105 mm mines were incorporated into the block.

d. At points 9, 10, 11 and 12 the road was mined with two rows of mines extending diagonally across the road with 12 mines in each block. These were easily located, being covered rather obviously by palm fronds.

e. At point 14, Figure 1, several casualties were suffered by an infantry patrol from a mined road block of the type mentioned in "d" above. Later inspection indicated that this block could have been located visually and avoided.

Preliminary reports indicate that Cebu City was heavily mined and fortified. In seven heavy road blocks reported were found 16 depth charges, 1 aerial bomb, and 2 parachute bombs. Details will be published later.



BEACH DEFENSES — CEBU **APPROX. SCALE 1:11,800** **COCONUT** **WET RICE**

JAPANESE MINES ON NEGROS OCCIDENTAL

(See Figure 2)

Mines and prepared demolition charges were used extensively by the Japs on NEGROS OCCIDENTAL to impede our advance north on Highway 1 and a major portion of the engineer effort was devoted to mine detection and removal. Various types of mines were encountered, the most common being the aerial bomb buried nose up and prepared to detonate on contact. Mines were found on all the main highways, in city streets, at crossroads and intersections, and under bridges and culverts. They were a constant hazard to the incautious but failed to delay our forces materially thanks to vigorous forward engineer reconnaissance and the prompt action taken towards their removal.

Mines were commonly laid along the sides and shoulders of the road but in some instances were found buried in the middle of the road or in the wheel tracks. Employment was haphazard and no definite mine patterns could be established. Most mines were easily detected but some were skillfully concealed and difficult to locate. Concealment was effected by covering the mine with earth or road dust or in appropriate cases by brush, sod, and other natural materials. Both visual inspection and the mine detector were used to locate enemy mines.

The usual method of removal involved investigation of the area for booby traps, careful excavation to uncover the fuse, defusing the mine and removal by manhandling or winch and A-frame. None of the mines encountered up to 1 April were booby trapped. Some mines were not fused and gave evidence of hasty emplacement.

It was demonstrated forcibly that previous vehicular travel over a particular road is no sure guarantee of its freedom from mines. An engineer truck was overturned and its occupants injured on the main highway south of Bacolod several hours after the road had been used by all types of traffic. Wheel and tank tracks leading to the mine crater showed that the mine had been run over by many vehicles before this particular one made the proper contact.

A lunge mine attack on one of our tanks by a Jap in the streets of Bacolod gave further evidence of Nipponese fanaticism and willingness to employ suicide tactics. It was reported that bedding rolls carried on the side of the tank protected it from the explosion and damage to the tank was negligible. The Jap was blown to pieces.

All large bridges were mined and prepared for electrical detonation but the speed of our advance north to Talisay permitted their seizure intact. Demolition charges, consisting of aerial bombs, artillery shells, as well as the usual types of Japanese explosives, were placed skillfully to blow abutments and cut main stringers. Delousing a bridge required location and cutting of electrical connections, disarming the charges, and removal by manual means.

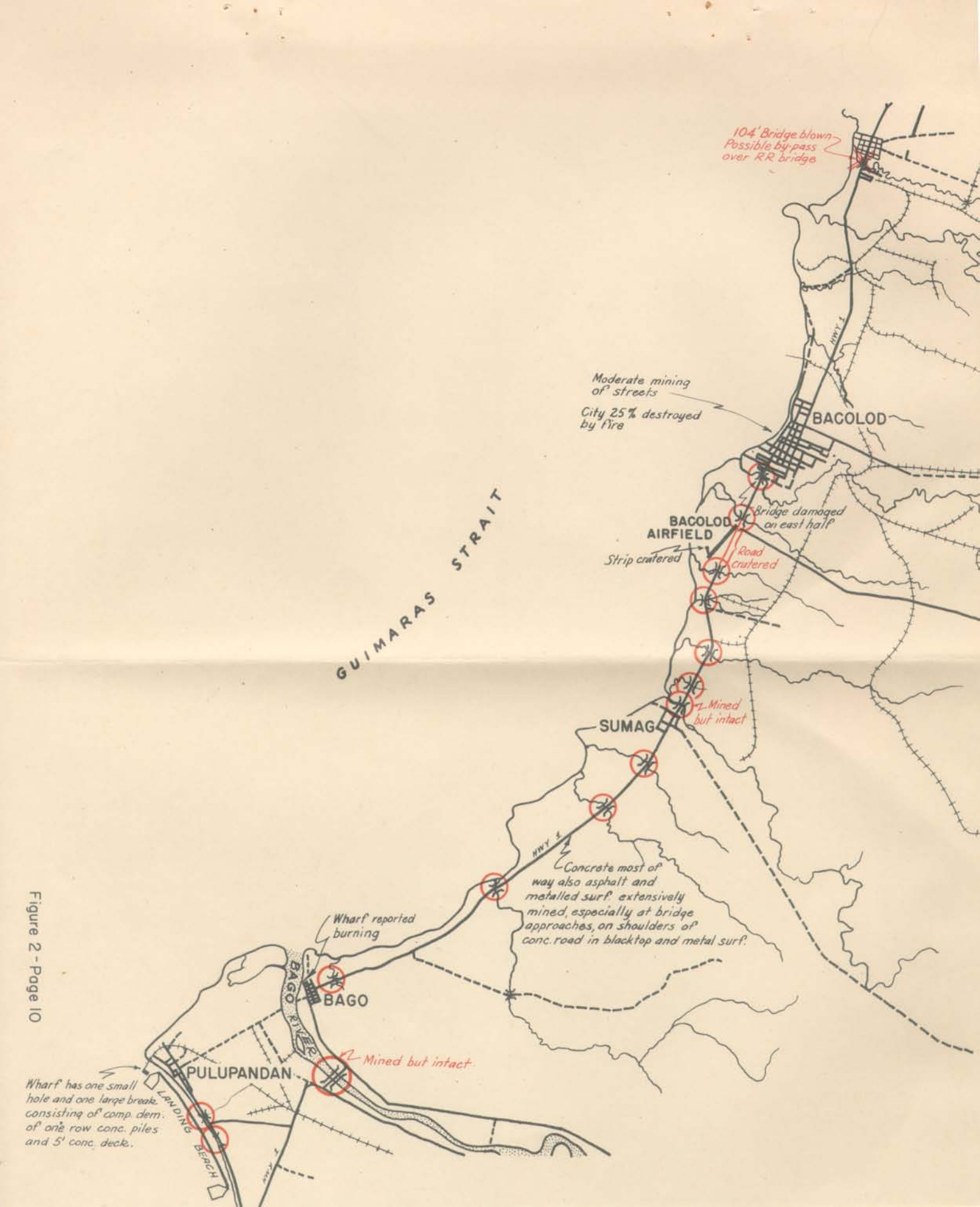


Figure 2 - Page 10

ZAMBOANGA LANDING

(Figures 3 - 27)

The following information has been extracted from reports made by the force engineer at Zamboanga:

* * * * *

"MINEFIELD REPORT #1"

"I. GENERAL:

A. The Zamboanga area was the most heavily mined area encountered by the Division to date. The town and the area along the ocean front and the two air-strips were mined extensively with well-built mine chambers, but were never completed in time to be used defensively. Many mines were found alongside of the prepared mine chambers. There were a considerable number of mines in position, armed and ready for action, but due to the lack of camouflage, they were readily detected and rendered harmless.

B. Mines located to the north of the coastal area are more deliberate and are better concealed. A lot of the mines are prepared to be fired electrically, with a Jap soldier remaining behind in a pillbox to detonate the mines as our troops enter the area. Another type of mine was found to be detonated manually by a Jap soldier pulling a rope or wire to remove the safety pin and thus detonate the mine.

II. TYPES OF MINES:

A. The majority of mines found to date have been a barrel-type sea mine with a pressure detonating device. These mines had been set in prepared chambers in roads and streets and were also found placed on a built-up section of ground along a road. The latter were rigged up to be detonated by a rope leading to a nearby emplacement where a Jap soldier would pull the safety pin out, allowing a heavy lead weight to fall down the well inside of the mine, striking the detonator and exploding

the mine. These were readily detected. (See Figure 3).

B. A sea mine about 49" long and 24" in diameter has also been used along the roads and in buildings. A majority of these mines have been arranged for detonation using the rope method mentioned above, but utilizing a lever to smash the glass vial in the lead horn device used on the "teakettle" mine. Several of this type were found with the lead horn bent over but the mine intact. This mine is the type that is fired by the acid in the broken vial making contact and completing the circuit for electric detonation. In all mines found the master switch has been closed, completing the circuit except for the contact points near the lead horn. (See Figure 4).

C. Aerial bombs of 60 Kg and 250 Kg sizes have been found in roadways, placed nose-up and armed with type A3A Japanese Navy nose fuse. No booster charges have been found under these bombs and none of them were booby trapped. Several bombs found in place were lacking the nose fuse.

D. Japanese "yardstick mines" have been found, but were not used extensively. Two were found near Santa Maria attached to a rope so a Jap soldier in an entrenchment across the road could drag the two mines into the path of an oncoming tank or vehicle. The rope was plainly visible and the soldier had retreated before using it. Three "yardstick mines" were found lying in the middle of the main road just south of the west end of San Roque airstrip.

E. Box mines both large (12" cube) and small (6" x 6" x 3") also have been used. The large mines were fused with two type 91 hand grenades, but were lacking the detonators. A crude sack of rocks was attached to the bottom of each box by ropes. The large box mines had ropes attached to them so they could be carried as a pack. The small box mines were used by two Japs on an attempted suicidal raid on a PT base at Caldera Point. These mines were armed. The Japs were killed before they could use the mines.

F. The type 93 "tape measure" mine has not been used in mining roads, but a supply dump of them has been found. Detonators for the mines were missing.

G. One "Dotty Lamour" anti-tank grenade was recovered at Pasananca this date. It was armed with tail fuze, but was lacking the grass skirt. It was dropped by a retreating Jap and not used against our vehicles."

* * * * * * *

"I. Considerable use was made of artillery shells. One definite mine field was found at Gavilan Point in which 38 - 75 mm shells had been placed nose-down in containers and the ends covered with a 1" x 4" x 4" block of wood. Pressure on the block of wood forces the shell nose fuze onto a tin clip with a firing pin device on it and detonates the shell. One shell mine was struck by a 3/4 ton truck and the only damage was a punctured tire.

III. CONCEALMENT OF MINES:

A. The Japanese did a poor job in camouflaging their mines. The small barrel sea mine was generally set flush to the road surface and for pressure detonation. A 2 x 6 plank extended across the roadway set so that a vehicle crossing it would exert pressure on the mine at the side of the road and detonate it. Others had a piece of corrugated iron laid over the mine. Some of them were fairly well concealed. This type of mine using the lead weight and rope for detonation was easily located as the mine was placed alongside the road on one side with a pipe leading across the road for the pull wire or rope to pass thru from the mine to the Jap in the emplacement. The pipes were flush with the road surface, but not covered over.

B. The large type sea mines with the lead horns were also very easily detected. A majority of this type were lying alongside of the prepared chamber and were covered with a few palm branches. Those placed in their chambers were detected by the wooden framework above the ground banked with dirt and sod. The ropes or wires

leading from the mine to a pill box or emplacement were placed in metal pipes, bamboo and wooden triangular box pipes. Since the ground was raised over the pipe its position was easily detected.

C. The aerial bombs used as road mines were fairly well concealed, only a small portion of the bomb nose and the fuze protruding, but enough to be seen.

IV. DUMMY EQUIPMENT:

A. In one Jap headquarters building were several wooden "Dotty Lamour" anti-tank grenades and also several wooden "yardstick mines" Three dummy Japanese tankettes were located in the vicinity of San Roque strip.

V. BOOBY TRAPS:

A. Extensive use was made of the 60 Kg. aerial bomb as a man-controlled booby trap. These were found throughout the area. The bomb was placed on its side, covered with palm branches, armed with the Japanese Navy A-3-B bomb nose fuze, with a rope or wire attached to the safety pin. This rope ran to an emplacement where a Jap soldier could operate it. This type of fuze had the arming vanes turned out and the shear wire replaced by a safety pin with an eye on it. When the safety pin was withdrawn, a strong rubber band, which was attached to the arming vanes and the fuse base, would drive the firing pin into the detonator cap and explode the bomb. The rope lying on top of the ground was the key to locating the booby trap. Some of the ropes were green, others natural color.

VI. MINEFIELD PATTERNS:

A. Two definite minefields have been found to date; one consisted of 12 - 60 Kg. aerial bombs in a roadway near San Roque village and the other was a field of 38 - 75 mm artillery shells in an area next to a road near Gavilan Point. The pattern of the field in each case was easily detected by eye. (See Figures 5 and 6).

B. The practice of placing other road mines at road junctions was followed. There were a lot of mines found at the entrance to a coconut grove where pill boxes existed. These mines were placed just off the road between the shoulders and the first row of trees."

* * * * * * *

"VII. METHODS OF DISARMING:

A. The small barrel-type sea mine has been disarmed in two ways, depending on whether the pressure device or lead weight was used for detonation. The detonator booster charge, etc. of the pressure type was just pulled and disassembled. The lead weight of the second type was carefully removed with the safety pin in place. The detonator charge was then withdrawn. The disarmed mine was lifted out of place by means of a wrecker.

B. The large 49" x 24" sea mines were disarmed by opening the master switch on the rounded end of the mine and then unscrewing the lead horns from the other end. Next, the booster charge assembly was removed from the middle portion of the mine.

C. The artillery shells used as mines were disarmed by simply withdrawing the shell from its container in the ground. Any that were difficult in withdrawing were removed by fastening a winch cable to it and pulling it out from a safe distance.

D. The aerial bombs were disarmed by unscrewing the bomb nose fuse and lifting the bomb out of the ground by hand or by a truck crane.

VIII. SUMMARY:

A. Two companies of this battalion were employed in removal of mines in addition to their other work. One company did not require the use of their mine detectors as all the mines they encountered were visible and easily located. The other company used their mine detectors only as a check of a section of road where there was

some doubt as to the presence of mines. All mines found by this company were visible.

B. Two improvised grenades were found in a dump. One was a small beer bottle filled with iron filings and fine gravel, with a small powder charge wrapped in paper and a 4½" safety fuse with blasting cap. A bottle cap with a hole in it holds the fuse in the bottle. The other grenade was an empty 37 mm shell case filled with gravel and nails and fused as above. A bottle cap held the contents in the shell case.

C. Three containers 3" in diameter and 4" high were found which contained type 88 explosive. A recess in one end holds the fuse and cap which are held in place by attached cloth tape. Another attached tape is used to tie the pasteboard container of explosive to the object to be destroyed. Weight of unit is approximately one pound."

* * * * * * *

"REPORT ON ENEMY MINE OPERATIONS #2"
(Period covered: 16 March 1945 - 20 March 1945)
(See Figures 7 - 16)

"1. General.

a. Enemy mine operations for the period 16 March 1945 to 20 March 1945 were of the same general character as those of the period immediately following the landing. The enemy continues to use naval mines, depth charges, torpedoes, and aerial bombs; standard type land mines are the exception rather than the rule. In no instance were mines found in large fields in standard patterns as used by our forces. Roads, road junctions, bridges, trails, and suitable bivouac areas were the usual locations selected by the enemy for mine emplacements. Naval mines were generally placed below ground and often left uncovered. Occasional mines were encountered alongside prepared holes indicating that the enemy did not have time to emplace the mine properly. Naval type mines were normally prepared for manual pull operation from dugouts or pillboxes. However, most fuses

were also designed for impact firing. Aerial bombs ranging from 60 kilograms to 250 kilograms were usually found above ground with nose fuses prepared to function as pull type firing devices. Isolated bombs were found buried with fuses up and prepared for normal impact functioning.

b. During the period following the landing (10 March 1945 to 15 March 1945) the enemy failed to camouflage mines properly and in many instances failed to place firing devices or detonators in the mines. Other mines were found with detonators and firing mechanisms prepared in such a manner that functioning was impossible except by detonation of another explosive at close range. (It is believed that the latter resulted from lack of understanding by enemy troops of the proper functioning of the detonating mechanism). In the period covered by this report, however, the enemy has been more thorough in his camouflage as well as in his manner of placing and preparing firing devices and fuses. Natural camouflage had been used in all instances.

c. No dummy minefields have been encountered. However, since the enemy occasionally mined a road with concrete-topped depth charges placed approximately 25 meters apart in line along the axis of the road, one water pipeline similarly installed with concrete box couplings above the surface served the purpose of a dummy field until investigated.

d. No booby traps have been encountered.

e. Enemy troops infiltrating our positions at night occasionally left mines in our areas in localities used by our vehicles.

2. Mine Types.

a. A Japanese naval torpedo dump built into the side of a mountain one kilometer north of Santa Maria was blown by the enemy while the area was in the hands of friendly infantry, causing 61 casualties. The method of detonation is unknown, but it appears to have been by

electrical means. The explosion literally moved a mountain side and scattered debris over an extensive area. It is estimated that approximately eighty torpedoes were included in the charge, with twenty torpedoes left unexploded but widely scattered by the explosion.

b. (1) In the vicinity of Pasonanca naval torpedoes without propelling mechanisms were found in groups of two or three approximately thirty meters apart. All were placed off the road and camouflaged only by grass. Mines were set to be detonated from pillboxes seventy-five meters away, using a 3/8" pull cable.

(2) The firing device appeared to be a complex mouse trap arrangement (not improvised) which was held in a safe position only by a nail wedged between two spring-operated levers which moved in opposite directions. (See Figure 14).

(3) The manner of preparing the firing mechanism made it dangerous to attempt to remove the detonator. Naval torpedo experts advised blowing in place in spite of damage to roadway, buildings, and water pipes.

c. Enemy infiltration parties buried two yardstick mines in the dust of a road leading to a POL dump. Both mines were effective, partially destroying two vehicles and causing three casualties.

d. An M-4 tank detonated a 60 kilogram bomb placed nose-up in a field of twenty-one such mines camouflaged with palm branches. Fuses were type A-3-A. The tank suspension system was destroyed and six casualties resulted.

e. One bangalore torpedo with pull type fuse, lunge mines, and grass skirt mines have been encountered. These had not been placed in fields but were found in dumps or being carried by Japanese attempting to infiltrate behind our lines."

* * * * * * *

* * * * * * * *

REPORT OF ENEMY DEFENSIVE INSTALLATIONS #1

I. General.

a. The Japanese had prepared a well integrated defensive system for the Zamboanga area. The beaches and sea wall from Gavitan Point to Zamboanga were covered by an extensive system of well-built and well-camouflaged pillboxes with protective wire. To the West of Gavitan Point the beach area contained only scattered installations. It was apparent from the nature of the beach defenses that the enemy expected the main assault to take place over the sea wall or a few hundred yards west of the wall.

b. San Roque Drome was protected on the West, South, and East by pillboxes, trenches, dugouts, and wire constructed to provide centers of resistance at strategic points. There was no continuous integrated line in the vicinity of the drome.

c. The main enemy positions began approximately three kilometers north of the beach and extended approximately five kilometers in depth. These positions were placed to dominate all approaches with excellent and unhindered observation of the entire plain. While the enemy held these defenses it was impossible to prevent our movements from detection. This mountainside defensive position was made up of thousands of yards of mutually supporting pillboxes and trenches covering both ridges and draws. The system gave every evidence of being well planned, organized, and constructed.

d. Existing roads were adequately covered by pillboxes or dugouts placed approximately twenty yards to either side or directly at intersections.

e. As in the past the enemy made use of hillside caves and tunnels. These were made a part of the mutually supporting positions wherever they existed.

f. The construction of pillboxes varied from a four foot thickness of concrete reinforced with small gauge rails to one thickness coconut log types. The usual pillbox consisted of from two to three thicknesses of coconut logs covered with three feet of earth. In some instances pillboxes were lined with half inch steel plates. Occasionally steel door entrances were encountered. The water table on the plain forced the enemy to build above ground, but in the hills only small portions of the system were exposed.

II. Concealment and Deception.

The enemy showed himself adept at certain phases of camouflage. Beach installations were tied in to existing structures or hidden by trees. Trenches, wire, and pillboxes were overgrown with vegetation which offered the best possible camouflage. Unless these installations were exposed by artillery or air bombardment they were difficult to detect at more than thirty yards. In the hills detection was even more difficult and many instances occurred where the pillbox remained unobserved until its occupants opened fire at close range.

III. Barbed wire.

a. Enemy barbed wire fences consisted of two types, low wire fence and double apron fence. Low wire fence was set on wooden stakes twelve to sixteen inches above ground and normally extended eight feet in depth. It was impossible to crawl under this wire, but it could be negotiated by carefully stepping through. Grass adequately camouflaged all low wire fences.

b. The high double apron fence was similar to that used by our forces. Wooden pickets were used in all cases. The double apron wire was usually placed against a dark background. Detection would have been difficult except for the wide wooden pickets which contrasted with the background.

IV. Trenches.

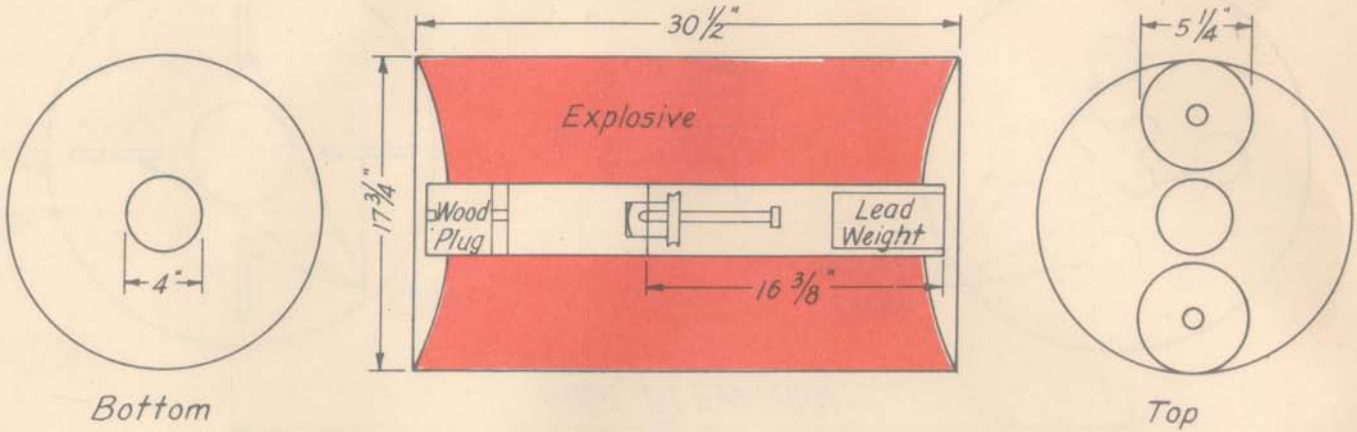
Enemy trenches varied in depth from two to six feet.

Types included trenches with prepared firing steps, communication trenches, and connecting trenches. Some pillboxes were provided with trenches radiating approximately fifteen yards from the trench to provide all around squad protection."

* * * * * * *

"b. Attached sketches (Figures 17 to end) are self explanatory."

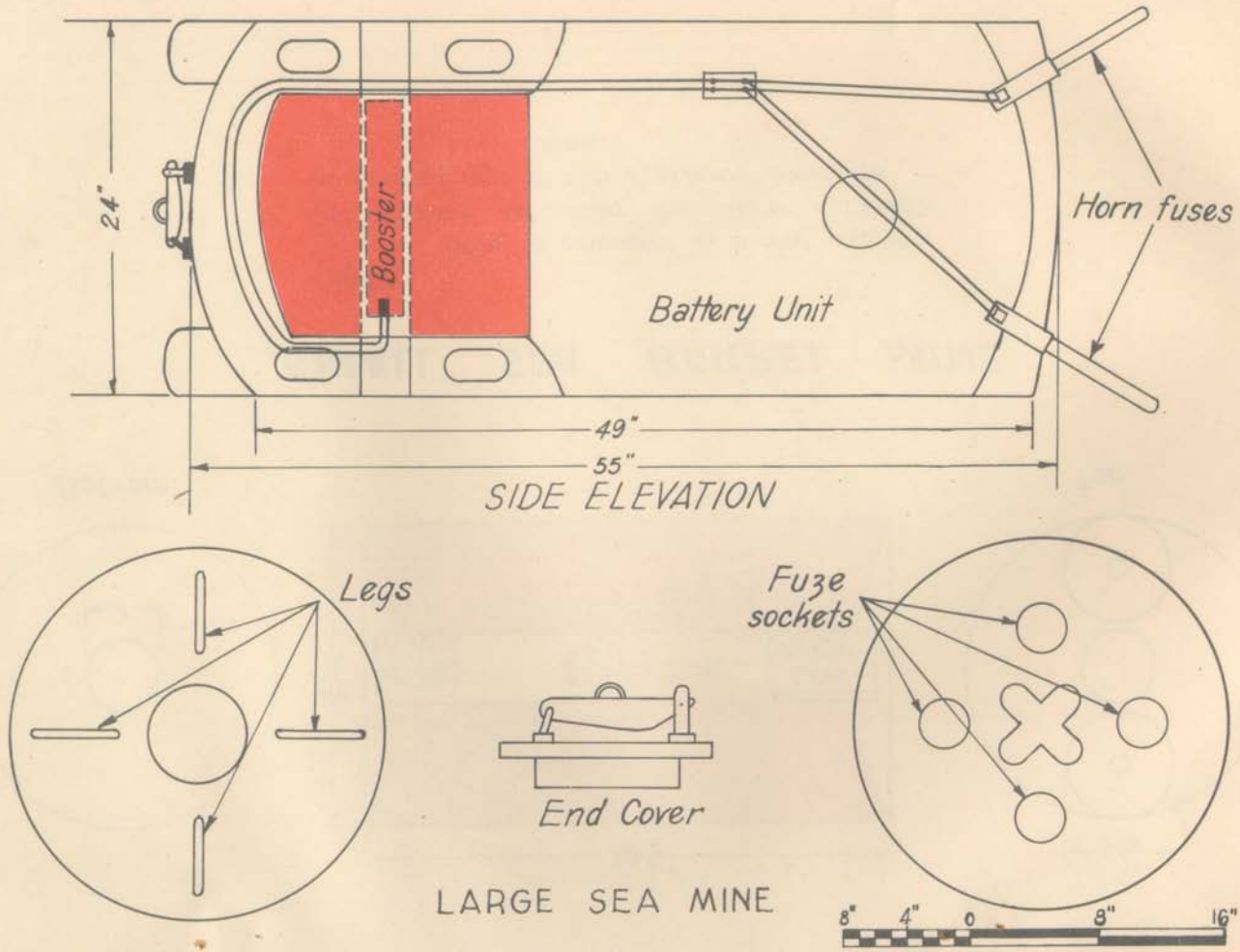
* * * * * * *



SMALL SEA BARREL MINE

Note :

Mine is detonated by a lead weight. For pressure detonation, the booster is raised by a wood plug so that it extends above the mine.



LARGE SEA MINE

· MINEFIELD PATTERN ·

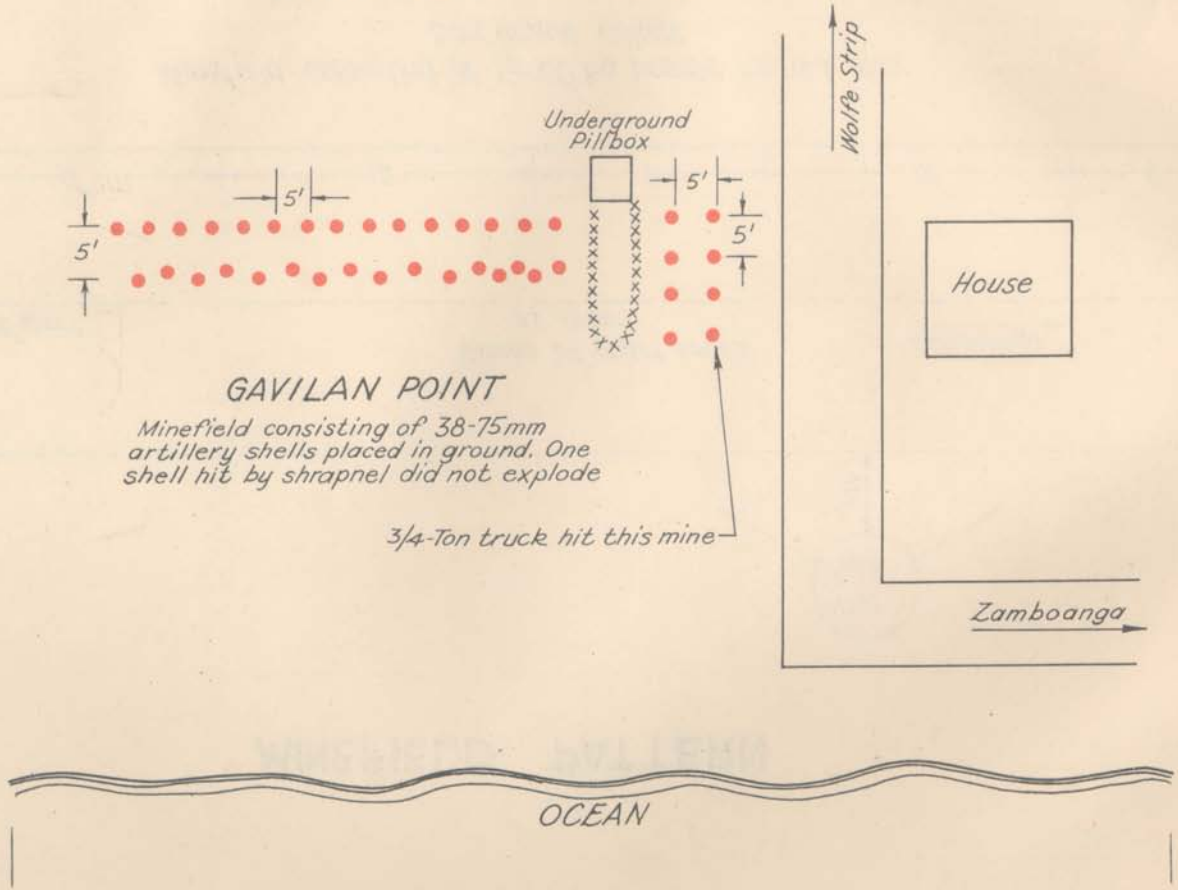
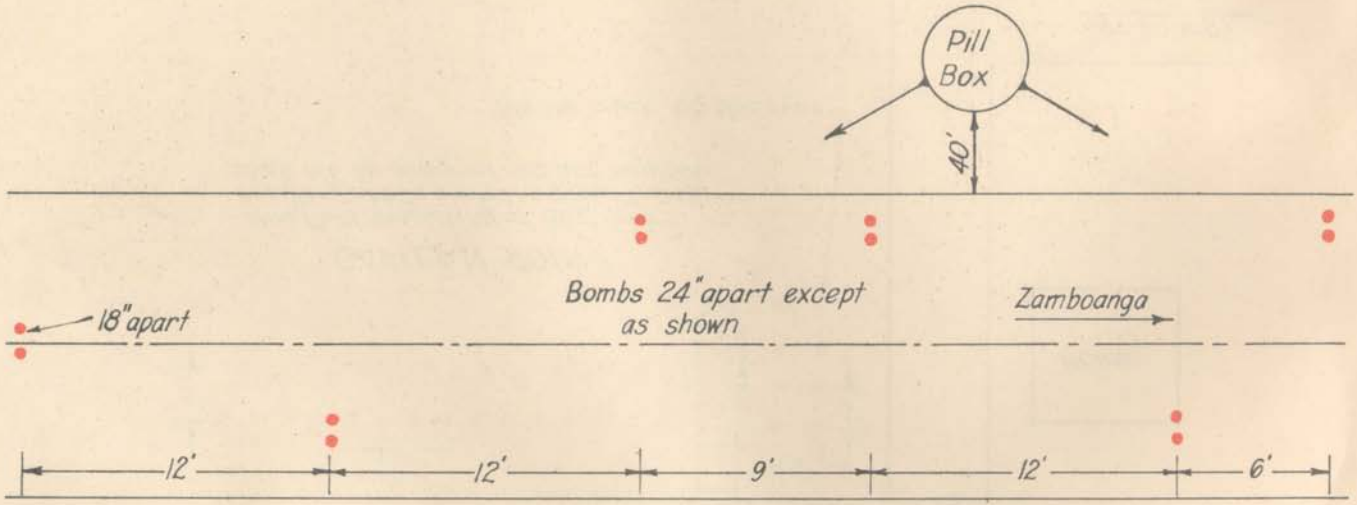


Figure 5 - Page 24

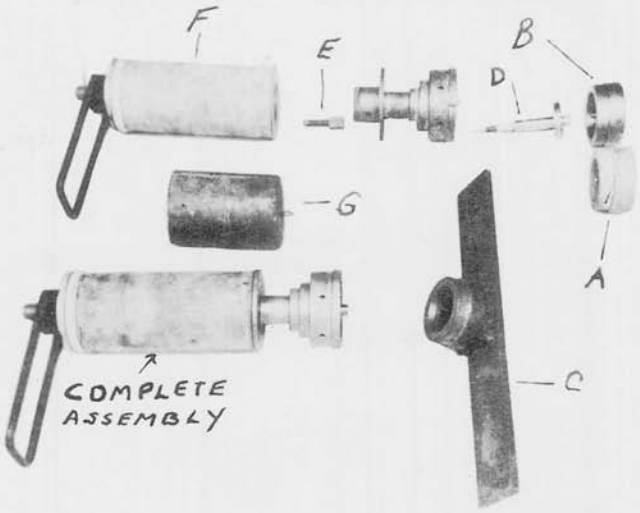
MINEFIELD PATTERN



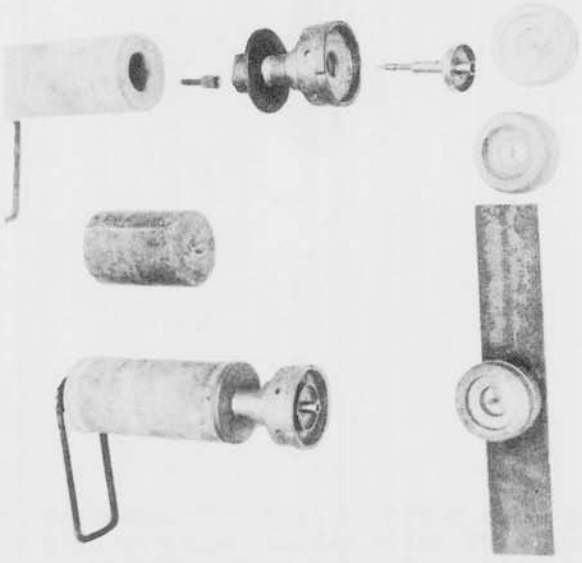
Minefield consisting of 12-60 Kg. bombs located near San Roque village

Lead horn assembly unit with lever attachment used on the large barrel sea mine. A pull-rope was attached to the lever to break the acid vial in the lead horn.

Component parts of lead horn assembly unit. (A) Lead horn. (B) White rubber sack for acid vial. (C) Acid vial with spring and cork wrapping.

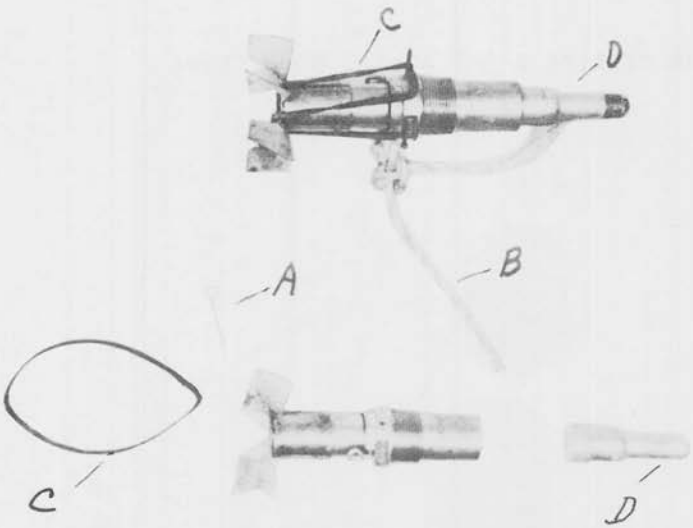


Complete and disassembled units of detonating device used in Depth Charge shown in photo no. 5. A wood cap (A) is replaced by the metal cap (B). A wide flange has been welded on metal cap (C) to provide additional contact for pressure detonation. Firing pin is (D), detonator cap (E), and booster charge (F). For manual detonation of mine, lead weight (G) is dropped by pulling holding pin and falls 10" to strike cap (C).

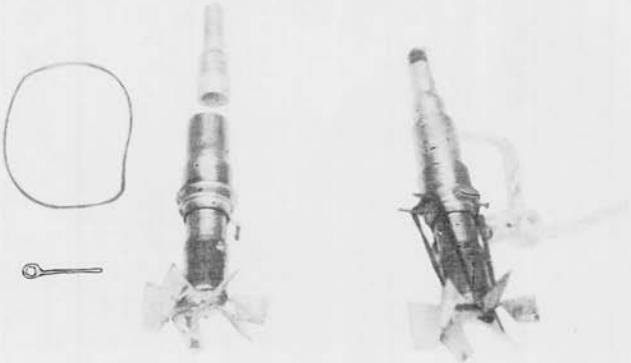


Another view of items in photo No. 3.

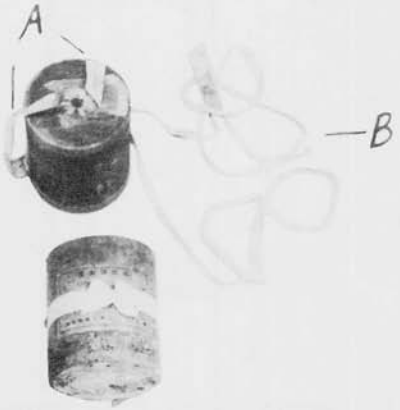
Depth Charge. The protruding wooden plug is used to hold the detonator unit inside the mine so that the metal cap is above the ground.



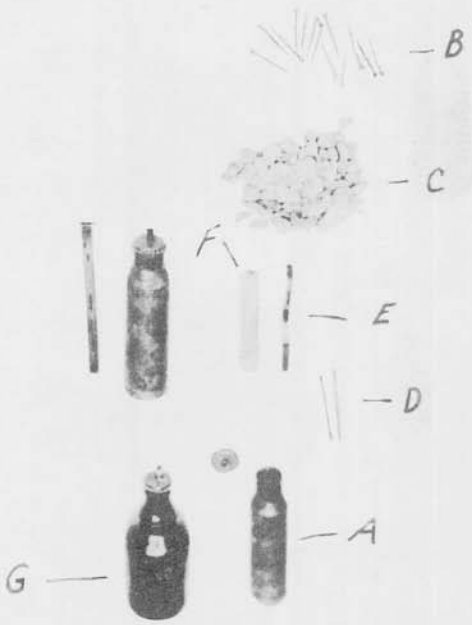
Type A-3-B aerial nose fuze prepared for manual pull firing as used in 60 Kg. bombs. The shear wire in the fuze has been replaced by safety pin (A). The arming vanes are retracted to armed position. When the safety pin is withdrawn by the rope (B), a strong rubber band (C) pulls the arming vane forward driving the firing pin into the detonator (D). The rubber band is held in tension by the arming vanes and two nails inserted as shown.



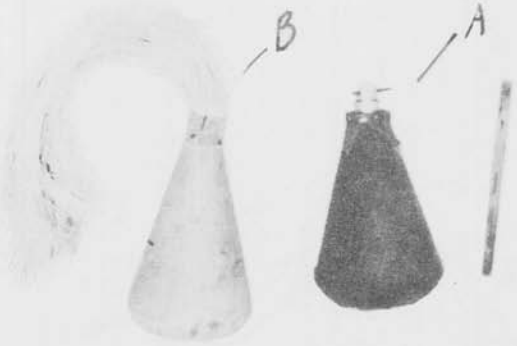
Another view of type A-3-B aerial nose fuze.



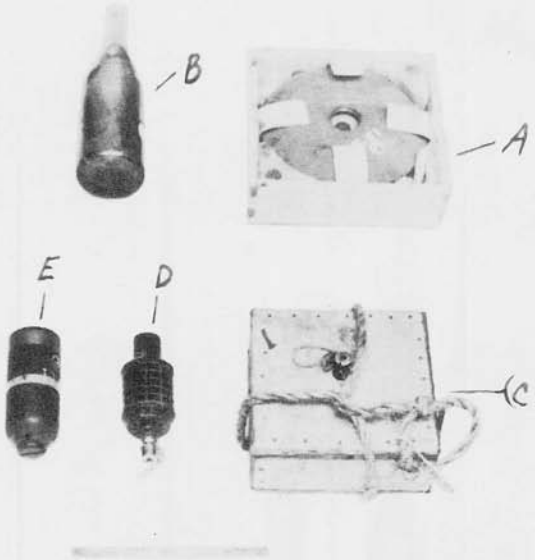
One pound of Type 88 explosive in cardboard container. Recess in end is for inserting blasting cap and fuze and tying in place with cords (A). Cord (B) is used to tie the charge to object to be destroyed. Size of unit 3¼" diameter x 4" long.



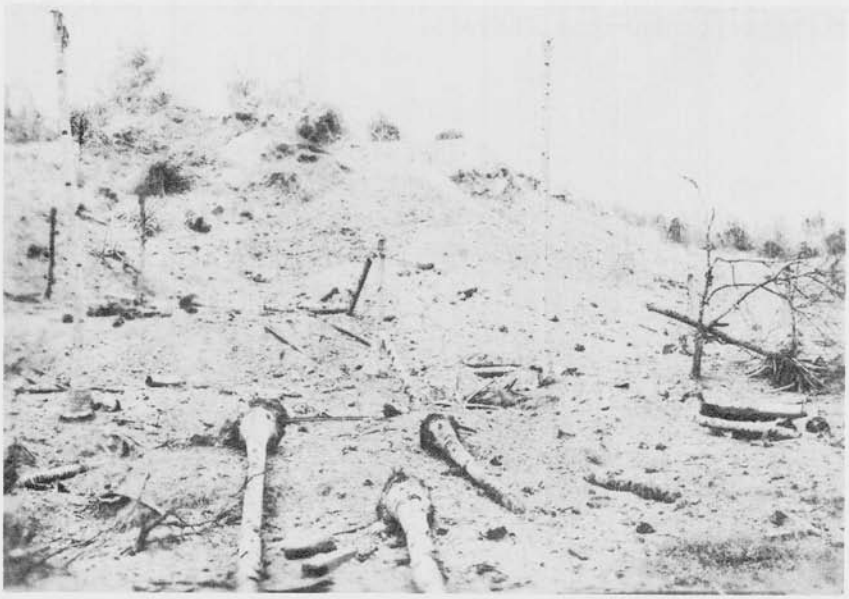
Improvised grenades. 25 mm shell (A) is filled with nails (B), gravel (C) and Picric Acid (D). Safety fuse and blasting cap (E) fit into paper sack (F). Beer bottle (G) used as improvised grenade with iron filings for shrapnel effect.



A.T. grenade, "Dotty Lamour", less grass tail (A). Wooden dummy grenade (B).

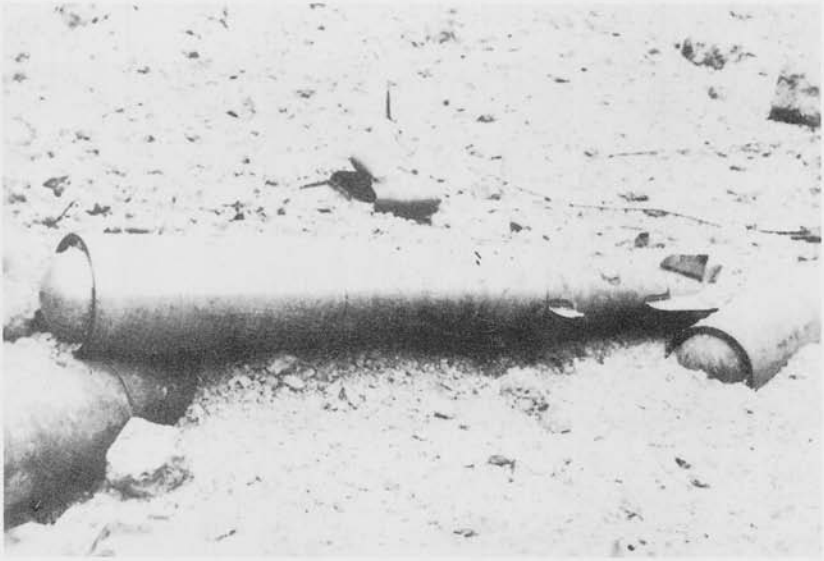


Miscellaneous Items. Type "93" land mine (A); gas molotov cocktail (B); small box mine (C); type "97" grenade (D), and model 89 grenade (E).



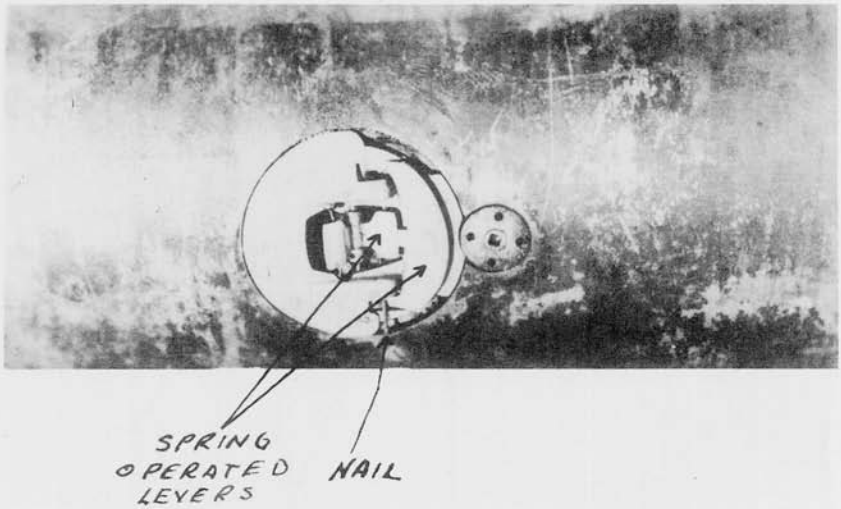
Scene explosion of Jap torpedo dump. Cocoanut trees in foreground knocked over by explosion.

Unexploded torpedoes at scene of explosion. Parts of small railway car visible on right side.

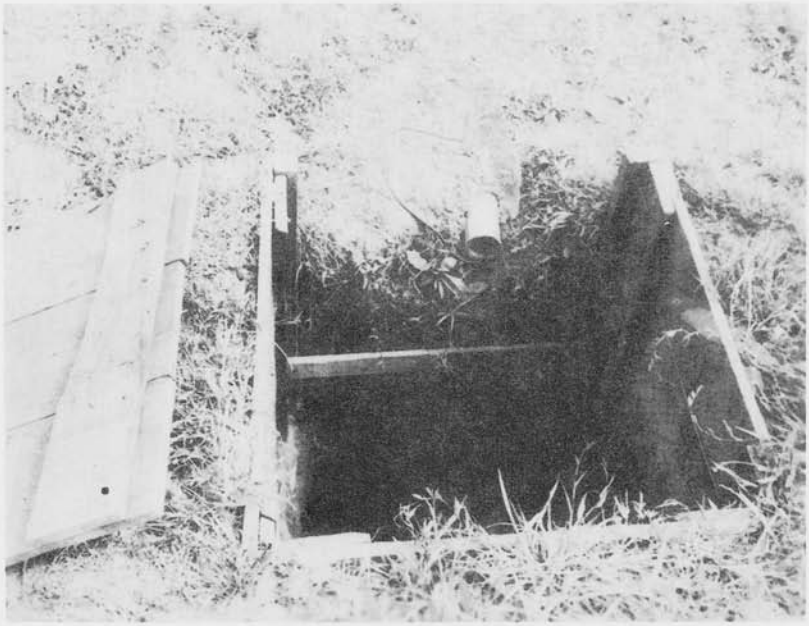


Close-up view of torpedo.

Torpedo minus propelling mechanism used as a mine. Hole 2' deep. The empty box contained the fuze assembly.



Close-up view of fuze assembly in torpedo warhead mine.



Chamber for large type sea mine showing cover and bamboo pipe with wire running through to pillbox 100 yards away. Chamber is 3' square and 4' deep.

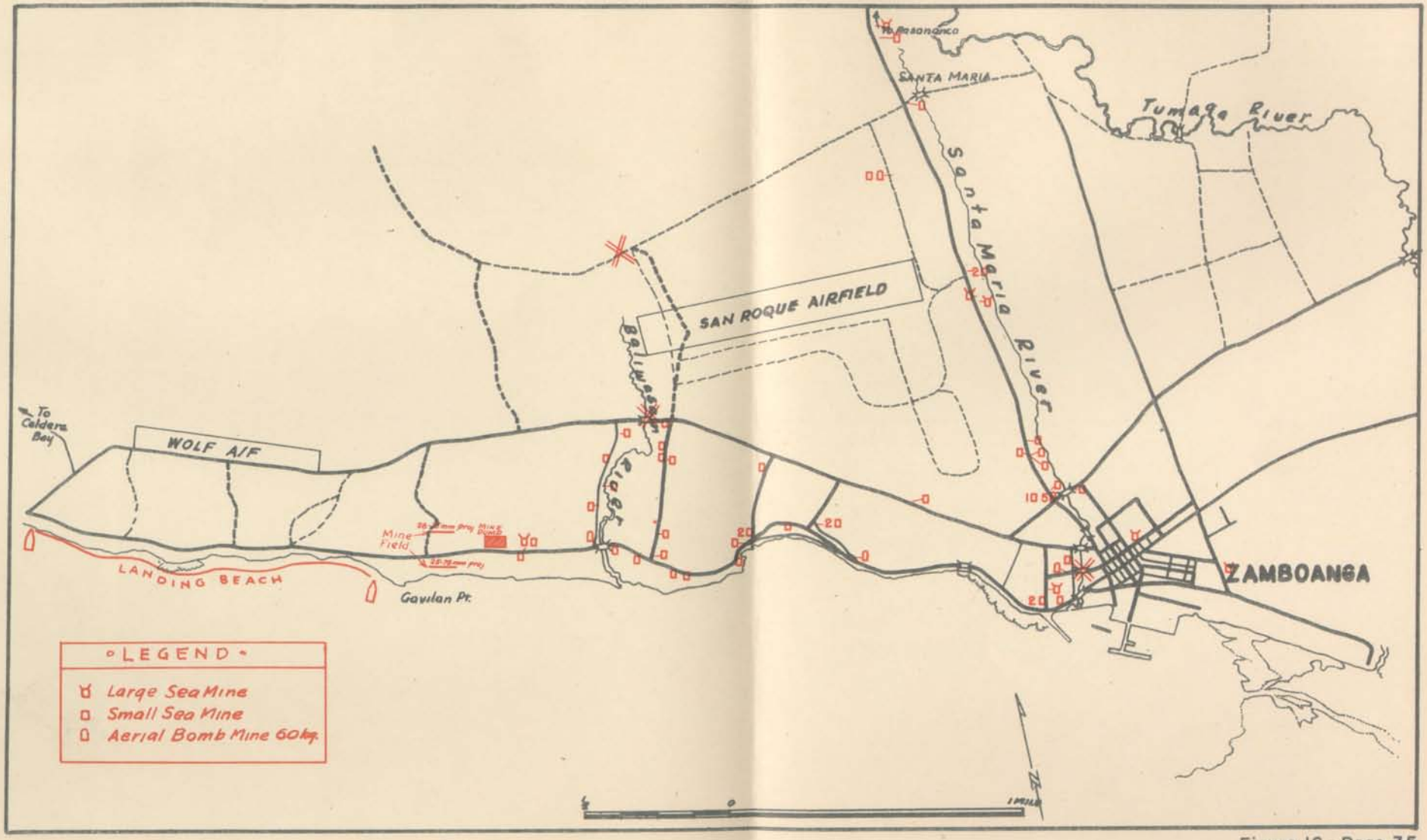
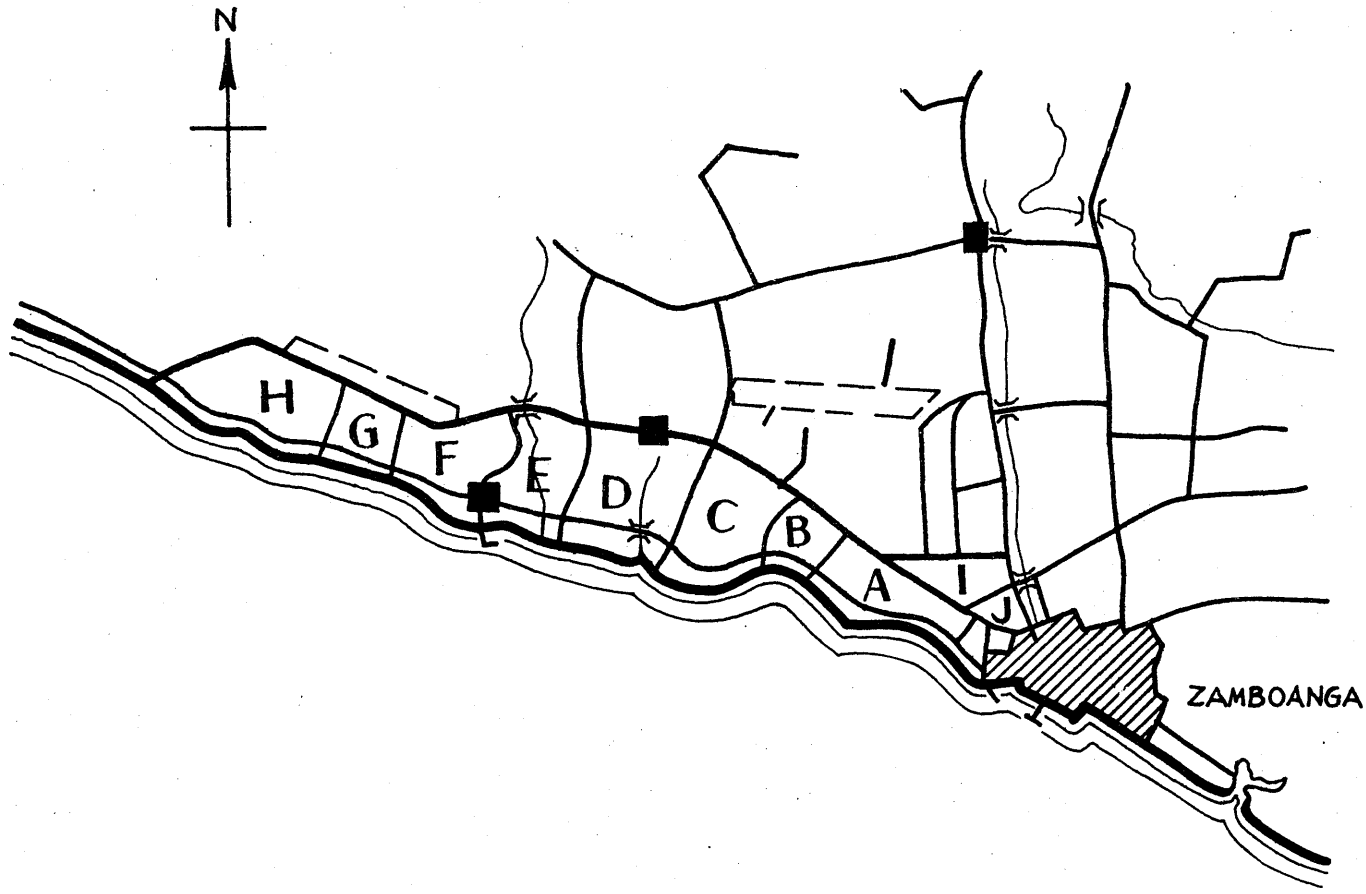


Figure 16 - Page 35

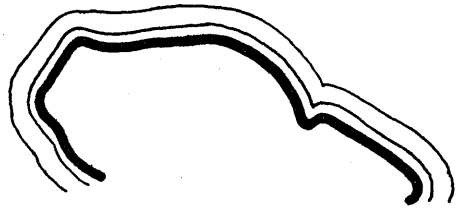
KEY MAP

SHOWING THE AREAS THAT HAVE BEEN SURVEYED



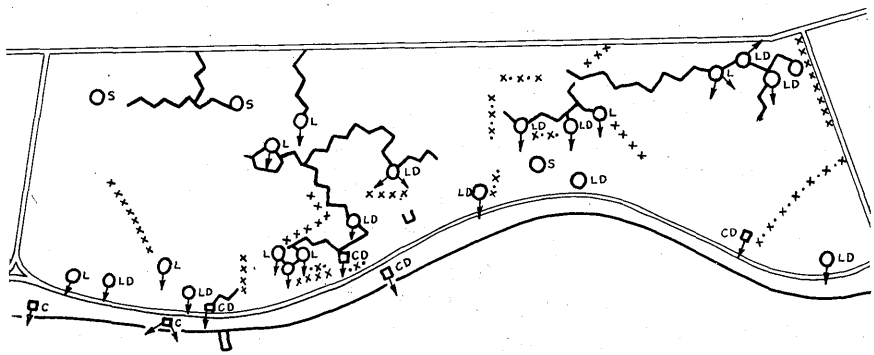
Scale (Approx)

0 1000 2000 3000 4000 YARDS



NOTE: THIS OVERLAY WAS MADE FROM SHEET NO. 3731-IV, ZAMBOANGA, MINDANAO, 1:50,000

AREA -A-



C	PILLBOXES, Concrete	6	D Destroyed	4
L	" Log	20		11
S	SHELTER, Air raid	5		0
U	REVETMENT, Log	1		
~	ENTRENCHMENTS			
×××××	WIRE	3' high, single apron		
×·×·×·×		1' high		

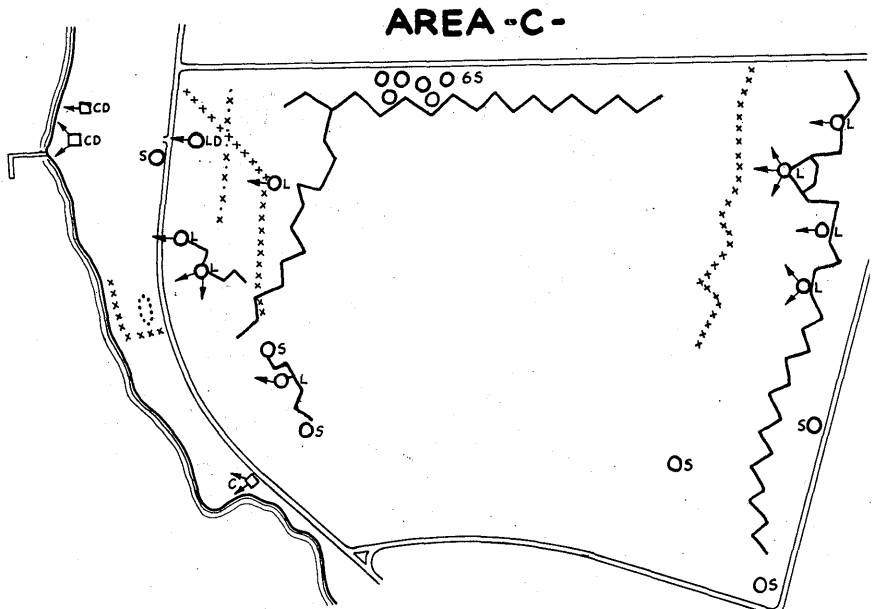
AREA -B-

C	PILLBOXES, Concrete	0	D Destroyed	0
	" Log	9	"	1
	SHELTERS, Air raid	8	"	0

ENTRENCHMENTS

Wire, 3' high, single apron

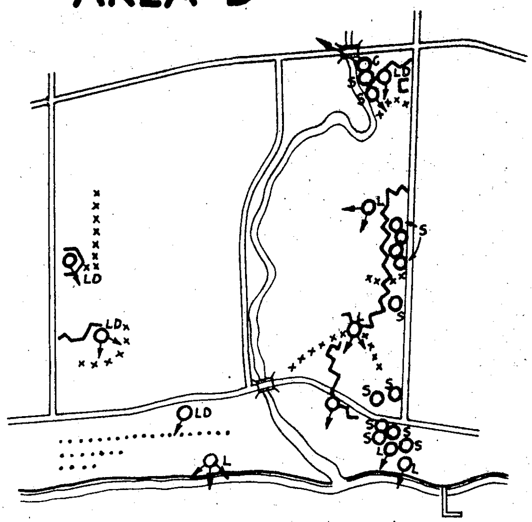
REMARKS: Parts of this area have been regraded for our use, obliterating some enemy defences



C	PILLBOXES, Concrete	3	D Destroyed	2
L	" Log	10	"	2
S	SHELTERS, Air raid	12	"	1
.....	TANK OBSTACLES, Log	1		
~~	ENTRENCHMENTS			
××××	WIRE, 3' high, single apron			
·×·×·×	" 1' " " "			

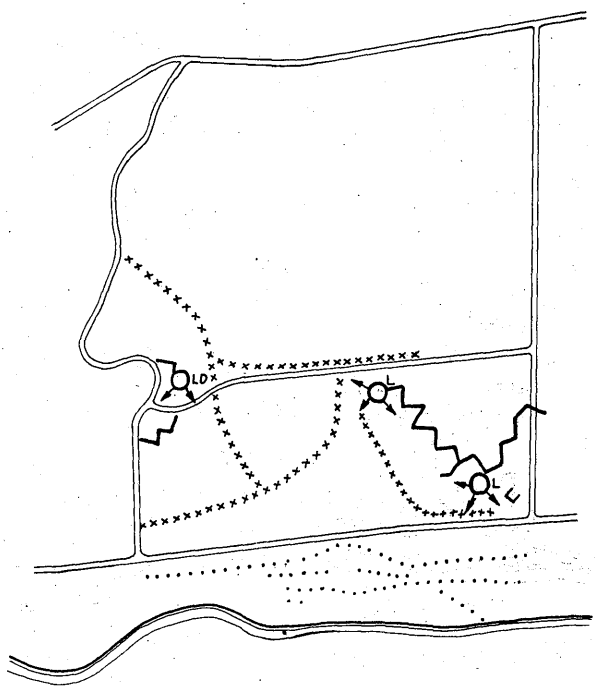
REMARKS : Concrete Pillbox was camouflaged to look like a dwelling

AREA -D-



PILLBOXES, Log	11	D	Destroyed	3
SHELTERS, Air raid	13		"	0
REVETMENT, Log	1		"	0
TANK OBSTACLE, Log				
ENTRENCHMENTS				
WIRE, 3' high, single apron				

AREA -E-



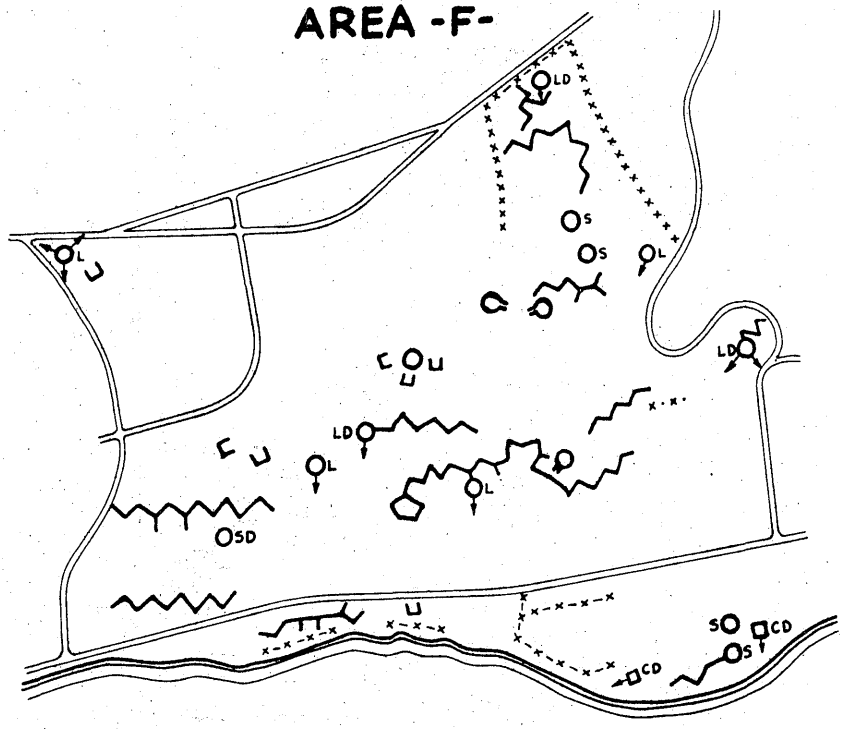
L PILLBOXES, Log 3 D Destroyed 1

TANK OBSTACLES, Log

ENTRENCHMENTS

WIRE, 3' high, double apron

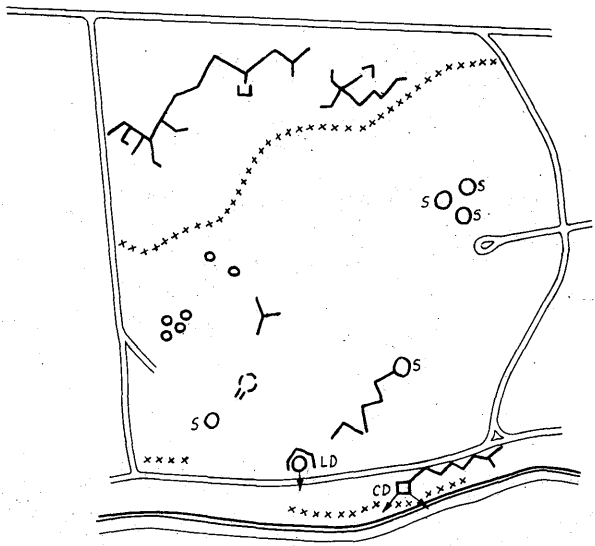
AREA -F-



C	PILLBOXES , Concrete	2	D Destroyed	2
L	" Log	7	"	3
S	SHELTERS , Air raid	6	"	1
	CAVES ,	3		
	GUN POSITIONS , Open	7		
	ENTRENCHMENTS			
xxxxx	WIRE , High, double apron			
x-x-x	" High, fence			
x·x·x·	" Low, "			

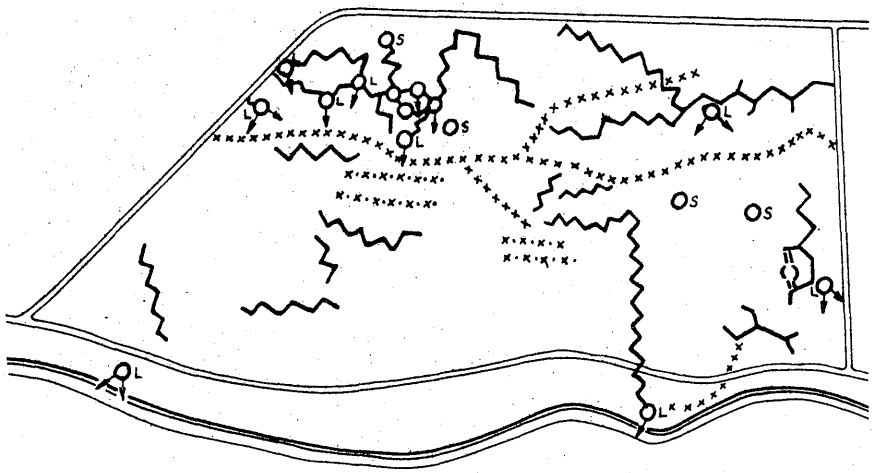
Figure 23 - Page 42

AREA -G-



C	PILLBOXES ,	Concrete	1	D Destroyed	1
L	"	Log	1	"	1
S	SHELTERS ,	Log	5	"	0
	CAVES,	1			
	ENTRENCHMENTS				
o	FOX HOLES ,	4			
xxxxx	WIRE ,	High, double apron			

AREA -H-



PILLBOXES , log 11 — D Destroyed 0

SHELTERS , log 25 — " 0

CAVES

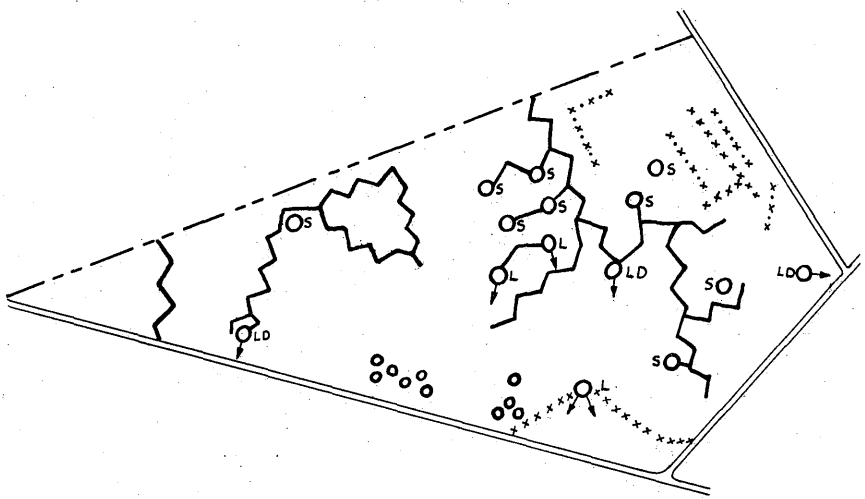
ENTRENCHMENTS

WIRE , 3' high , double apron

" 1' " " "

Figure 25 - Page 44

AREA -1-



L PILLBOXES , Log 6 D Destroyed 3

S SHELTERS , Log 9 " 0

FOX HOLES, 10

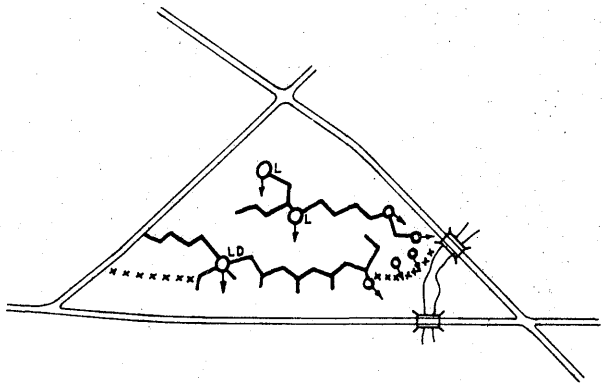
ENTRENCHMENTS, Located under tree thickets

WIRE , 3' high, double apron

" 1' " " "

HC

AREA -J-



L PILLBOXES, Log 3 D Destroyed 1

" Small 5 " 0

ENTRENCHMENTS

×××× WIRE, 3' high, double apron

ADDENDA

Additional information about the fuse assembly of the Jap naval torpedo used as a mine has just been received from Zamboanga in time to be included in this bulletin.

"The detonating mechanism is an all-way inertia type operated by approximately seven pounds pressure in any direction. When used in water the fuse arms itself through a rotating vane in the same manner as an aerial bomb fuse. When prepared as a land mine, the fuse is manually armed and ingeniously rigged for firing by a wire attached to the inertia cup. An anti-withdrawal wire is also attached.

This mine is extremely dangerous to disarm and it is recommended that the mine be destroyed in place unless removal is absolutely necessary. CUTTING THE PULL WIRE OR ANTI-WITHDRAWAL WIRE IS DANGEROUS, since the release of any springs in the mechanism jars the inertia cup sufficiently to cause detonation and because slight tension on loose wires will also detonate the fuse."